

ABSTRACT OF THE DISCLOSURE

A method of etching a trench in a substrate using a dry plasma etch technique that allows precise control of lateral undercut. The method includes optionally forming  
5 at least one on-chip device or micro-machined structure in a surface of a silicon substrate, and covering the surface with a masking layer. A trench pattern is then imaged in or transferred to the masking layer for subsequent etching of the substrate. Upper portions of  
10 the trench are anisotropically etched in the substrate. The trench is then semi-anisotropically etched and isotropically etched in the substrate. By modifying isotropic etching time, a controlled lateral undercut can be achieved as the trench is etched vertically in the  
15 substrate.

246430